

REMARKS

Applicant has reviewed the Office Action dated February 11, 2003, and the references cited therewith.

Claim 5 has been amended; as a result, claims 1 - 24 remain pending in this application. Applicant notes the withdrawal of the rejections contained in the previous office action of claims 1, 2, 6, 9, 11, 12, 16, 19 and 21 - 24 under 35 U.S.C. § 102(b) as being anticipated by Kieval et al. (U.S. Patent No. 5,507,782).

§112 Rejection of the Claims

In the Office Action, claim 5 was rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The amendment requested herein is believed to overcome the rejection.

Rejections Under 35 U.S.C. § 102 and 103

In the Office Action, claims 1 - 23 were rejected under 35 U.S.C. § 102(b) as being anticipated by Thompson et al. (U.S. Patent No. 5,902,324). Claim 24 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Thompson et al. (U.S. Patent No. 5,902,324) in view of Kieval (U.S. Patent No. 5,507,782). The rejections are traversed and reconsideration is respectfully requested.

Claims 1 and 11

Claim 1 recites a method for pacing a synchronized heart chamber upon expiration of an escape interval in accordance with a synchronized pacing mode based upon events in a rate heart chamber and initiating a synchronized chamber protection period of predetermined duration after a synchronized chamber sense during which a pace to the synchronized chamber scheduled by the synchronized pacing mode is inhibited while the escape interval continues to run. Claim 11 recites a cardiac rhythm management device programmed to pace a synchronized heart chamber upon expiration of an escape interval in accordance with a synchronized pacing mode based

upon events in a rate heart chamber and initiate a synchronized chamber protection period of predetermined duration after a synchronized chamber sense during which a pace to the synchronized chamber scheduled by the synchronized pacing mode is inhibited while the escape interval continues to run. The office action cites specific portions of Thompson et al. and argues that the limitations of claims 1 and 11 are found in therein. Applicant understands the argument contained in the office action to be that Thompson et. al teaches a particular CDW time/period during which the CDW INHIBIT signal is generated based upon a conducted depolarization in the synchronized chamber sense, and that this is the same as applicant's claimed synchronized chamber protection period. Applicant disagrees. The claims at issue recite that a synchronized chamber is paced upon expiration of an escape interval and that a protection period is initiated after a synchronized chamber sense during which a pace to the synchronized chamber scheduled by the synchronized pacing mode is inhibited while the escape interval continues to run. As best understood, Thompson et al. teaches pacing a synchronized chamber based upon expiration of a CDW timer started by a sense or pace in a contralateral rate chamber, and generating a CDW INHIBIT signal after a synchronized chamber sense during the assertion of which the CDW timer is halted and further triggering is inhibited (col. 15, lines 28-32). Thus, although pacing of the synchronized chamber is inhibited during the time that the CDW INHIBIT signal is asserted, that is so only because the CDW timer is halted. What is defined by the CDW timer is an escape interval for pacing the synchronized chamber, and this timer is halted and prevented from being triggered when the CDW INHIBIT signal is asserted. This is contrary to what is claimed by applicant where, during the synchronized chamber protection period, the "escape interval continues to run."

The distinction is not trivial, as the following example will show. Suppose that a synchronized chamber sense occurs shortly before a rate chamber sense. Thus, in Thompson et al., the CDW timer is halted in response to assertion of the CDW INHIBIT signal. If a rate chamber sense then occurs while the CDW timer is halted, no pace is delivered to the synchronized chamber during that cardiac cycle since the CDW timer is not started by the rate chamber sense. In applicant's claimed device and method, however, the situation is different. The synchronized chamber sense starts a synchronized chamber protection period. If a rate

chamber sense then occurs and the synchronized chamber protection period ends before the synchronized chamber is scheduled to be paced, a pace will be delivered to the synchronized chamber during that cardiac cycle. This is because the escape interval in applicant's device and method "continues to run" during the synchronized chamber protection period. Applicant respectfully requests withdrawal of the rejections of claims 1 and 11.

Claims 2 - 10 and 12 - 20

Claims 2 - 10 and 12 - 20 recite additional limitations to the patentable subject matters recited by claims 1 and 11, respectively, which applicant asserts to be neither taught nor suggested by Thompson in that context. Reconsideration and withdrawal of the rejections is respectively requested.

Claims 21 - 24

Applicant is unable to find a teaching or suggestion in either Thompson or Kieval for pacing a heart chamber asynchronously at a selected rate but inhibiting pacing of the chamber during a protection period that is initiated by a pace or sense in the chamber as recited by claim 21. In particular, applicant finds no teaching in either reference relating to asynchronous pacing. The definition of the term asynchronous pacing given in the office action is incorrect. As used in the present specification, and as commonly understood by those of skill in the art, asynchronous pacing simply refers to pacing a heart chamber at a fixed rate irrespective of intrinsic activity in the chamber. This is in contradistinction to synchronous pacing where a heart chamber is paced only after expiration of an escape interval which is reset by intrinsic activity in the chamber. Applicant also asserts that the recitations of dependent claims 22 - 24 represent further patentable limitations to the subject matter recited by claim 21. Reconsideration and withdrawal of the rejections of claims 21 - 24 is respectfully requested.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 - EXPEDITED PROCEDURE

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Title: SYSTEM AND METHOD FOR CARDIAC RHYTHM MANAGEMENT WITH SYNCHRONIZED PACING PROTECTION PERIOD

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Dkt: 279.166US1

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at 847-432-7302 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.


Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Box AF, Commissioner of Patents, Washington, D.C. 20231, on this 22 day of April, 2003

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